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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/783,202	02/19/2004	Jeffrey T. Cheung	01SC135CO1	6694

7590 09/16/2004  
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EXAMINER

JONES, JUDSON

ART UNIT PAPER NUMBER

2834

DATE MAILED: 09/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/783,202

Applicant(s)

CHEUNG ET AL.

Examiner

Judson H. Jones

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-33,43 and 48-58 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 29-32 is/are allowed.
- 6) ☒ Claim(s) 1-6,10-12,14-16,19-23,27,28,43,48-52 and 56-58 is/are rejected.
- 7) ☒ Claim(s) 7-9,13,17,18,24-26,33 and 53-55 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

### **DETAILED ACTION**

Applicant's arguments with respect to claims 1-8, 15-18, 43, 48-54, 56 and 57 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 10, 11, 15 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Vincent 5,175,457 A. Vincent discloses a dynamic magnet system having a plurality of magnets having mutually different properties as described in column 3 lines 19-40.

In regard to claims 2 and 5, see Vincent column 3 lines 19-40.

In regard to claims 3 and 4, see Vincent column 3 lines 63-65.

In regard to claim 10, see Vincent column 3 lines 5-10.

In regard to claim 11, Merriam Webster's Collegiate Dictionary Tenth Edition copyright 1997 defines nonconductor as "a substance that conducts heat, electricity or sound only in a very small degree." Vincent's material of high resistivity is viewed as meeting the definition of nonconductive when the word is given its broadest possible meaning.

In regard to claims 15 and 16, see Vincent figure 2.

#### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 6, 19-23, 28, 48-52, 56 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vincent in view of Fickelscher 4,744,678 A. Vincent discloses the dynamic magnet system for converting mechanical energy into electrical energy but does not disclose a static coefficient of friction less than 0.02. Fickelscher teaches in column 4 lines 35-37 that conventional axial bearings have a coefficient of friction on the order of 0.004. Since Vincent does not disclose what kind of bearings are used in the device, it would have been obvious at the time the invention was made for one of ordinary skill in the art to have utilized conventional axial bearings in a dynamic magnet system.

In regard to claim 19, an energy harvester is a generator with a different name. The generator of Vincent meets this claim limitation.

In regard to claims 20, 23, 49 and 52, see Vincent column 3 lines 19-40.

In regard to claims 21, 22, 50 and 51, see Vincent column 3 lines 63-65.

In regard to claim 56, see Vincent column 3 lines 5-10.

In regard to claim 28, see Vincent figure 2.

Claims 12 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vincent in view of Woodbridge et al. 5,696,413 A. Vincent discloses the dynamic magnet system for converting mechanical energy into electrical energy but does not disclose any specific use for the electrical energy that is produced. Woodbridge et al. teaches using a generator to power an electric motor as described in column 4 lines 8-12. Since Woodbridge et al. and Vincent are from the same field of endeavor it would have been obvious at the time the invention was made for one of ordinary skill in the art to have utilized a generator to power an electric motor, including the motor's operating system in order to increase the usefulness of the generator.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vincent in view of van Namen 5,231,337 A. Vincent discloses the dynamic magnet system but does not disclose any multiple oscillation modes. Van Namen teaches in column 6 lines 12-22 that a system can have more than one resonant frequency. In column 6 lines 22 van Namen mentions the fundamental vibration mode. Resonant vibration also happens at the harmonics of the fundamental vibration mode. See also van Namen column 6 lines 31-33. Since van Namen and Vincent are from the same field of endeavor it would have been obvious at the time the invention was made for one of ordinary skill in the art to have utilized multiple vibration modes in the Vincent device in order to increase the usefulness of the device by making it usable in different situations.

Claims 27 and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vincent as modified by Fickelscher in view of Woodbridge et al. 5,696,413 A. Vincent as modified by Fickelscher discloses the dynamic magnet system for converting mechanical energy into electrical energy but does not disclose any specific use for the electrical energy that is produced. Woodbridge et al. teaches using a generator to power an electric motor as described in column 4 lines 8-12. Since Woodbridge et al. and Vincent are from the same field of endeavor it would have been obvious at the time the invention was made for one of ordinary skill in the art to have utilized a generator to power an electric motor, including the motor's operating system in order to increase the usefulness of the generator.

***Allowable Subject Matter***

Claims 29-32 are allowed.

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Claims 7-9, 13, 17, 18, 24-26, 33 and 53-55 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record does not disclose or teach a dynamic magnet system with static coefficients of less than 0.02 in combination with the other features of claims 6, 19 and 48. The prior art of record does not disclose or teach a dynamic magnet system having a pair of end magnets in combination with the other features of claim 13. The prior art of record does not disclose or teach an energy harvester having a plurality of magnets where the harvester has a critical angle of displacement of less than 1 degree in combination with the other features of claims 17 and 28. The prior art of record does not disclose or teach a dynamic magnet system having an even number of magnets in combination with the other features of claim 33.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. .

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Judson H. Jones whose telephone number is 571-272-2025. The examiner can normally be reached on 8-4:30 M-F.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bhate 4,349,757 is assigned to Mechanical Technology Incorporated, the same company as the assignee of Vincent 5,175,457 A. Bhate discloses bearings as used in a reciprocating motor like the one of Vincent. Brown 4,538,964 A discloses a reciprocating compressor where the movable element is suspended by springs, thus giving a coefficient of

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friction of zero. Miwa et al. teaches a hydrodynamic bearing with a coefficient of friction of 0.2 or less.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



JHJ 9/10/2004



THANH LAM  
PRIMARY EXAMINER